CDC and Bridging the Gap: Introducing New State Appropriation, Grants, and Expenditure Data in the STATE System

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National Center for Chronic Disease Prevention and Health Promotion
Office on Smoking and Health

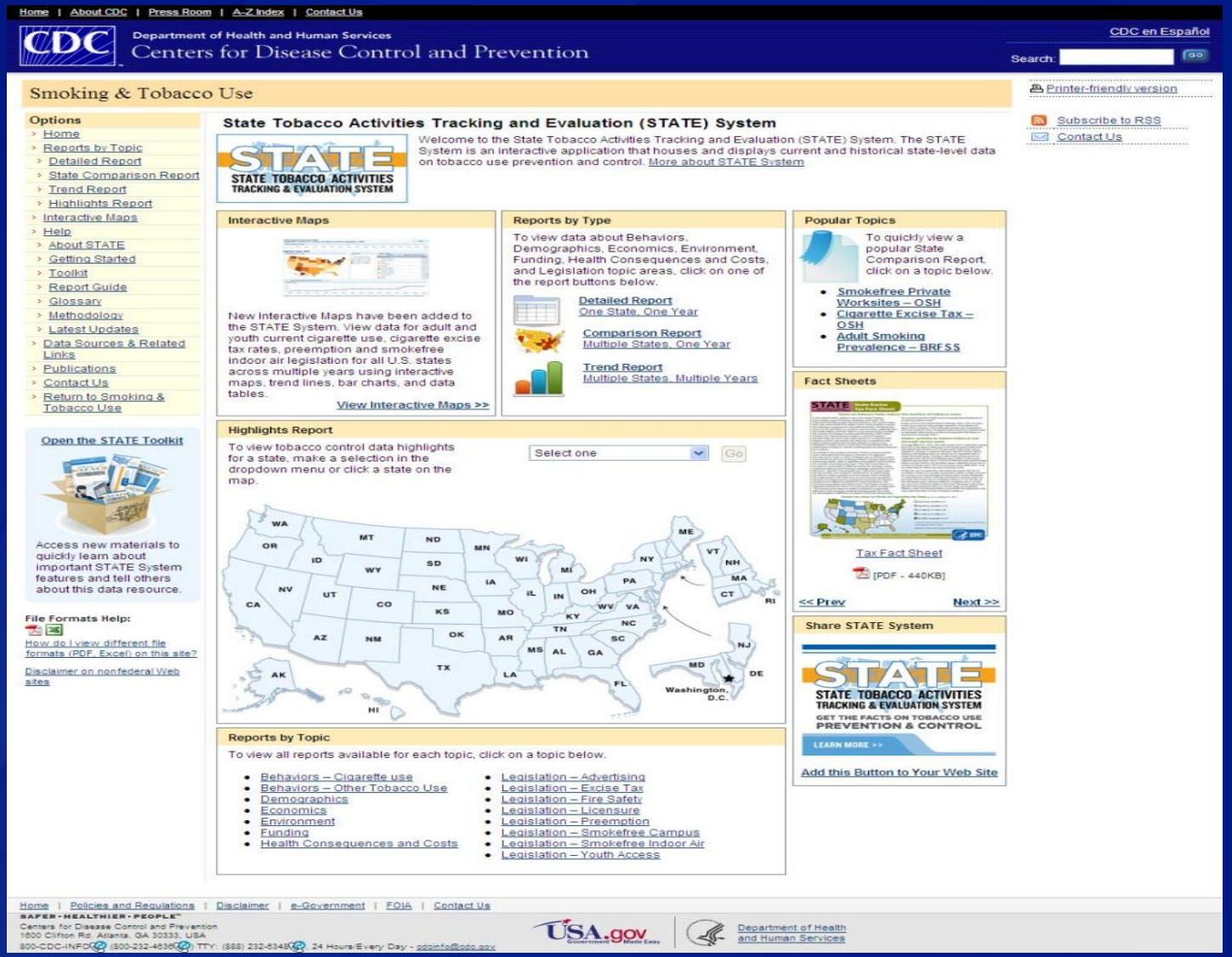
Presentation Topics

- Overview of STATE System
- Appropriation/ Expenditure Data Review
- STATE System Funding Reports
- Using the Funding Data
- Questions

Kimp Walton

STATE SYSTEM OVERVIEW

STATE SYSTEM OVERVIEW



STATE System Overview

- The STATE System is an interactive application that houses and displays current and historical state-level data on tobacco use prevention and control.

- Designed to integrate many data sources to provide comprehensive summary data, facilitate research, and produce consistent data interpretation.

www.cdc.gov/tobacco/STATESystem

STATE System Overview

- Behaviors – Cigarette Use
- Behaviors – Other Tobacco Use
- Demographics
- Economics
- Environment
- Funding
- Health Consequences and Costs
- Legislation - Advertising
- Legislation – Excise Tax
- Legislation – Fire Safety
- Legislation – Licensure
- Legislation – Preemption
- Legislation – Smokefree Campus
- Legislation – Smokefree Indoor Air
- Legislation – Youth Access
- Quitline – Services Available
- Quitline – Service Utilization
- Quitline – Follow-up

Jidong Huang

APPROPRIATION / EXPENDITURE DATA REVIEW

Tobacco Control Appropriations/Grants

- **Definition**
  - Public funding allocated to/by a particular state for tobacco prevention and control (whether allocated at the community and/or state level) but not necessarily expended
  - Excludes private funds and funding for national advocacy
  - Funds are allocated by state legislatures, voter ballot initiatives, or independent organizations

Tobacco Control Appropriations/Grants

- **Appropriations/Grants Funding Categories**
  - State (data available for years 1991-2011, all states/DC)
  - Federal (data available for years 1991-2011, all states/DC)
  - American Legacy Foundation (Legacy, data available for years 2000-2011, all states/DC)
  - Robert Wood Johnson Foundation (RWJF, data available for years 1994-2011, all states/DC)

Tobacco Control Appropriations/Grants

- **State appropriations (1991-2011)**
  - Funds specifically and explicitly appropriated/allocated to tobacco prevention and control activities/programs/initiatives
  - General health related program funding (such as Medicaid, Dept. of public health) are not included unless explicitly used for tobacco control and prevention

Tobacco Control Appropriations/Grants

- **State appropriations (1991-2011)**
  - Includes state funding towards Synar regulatory activities, however this data is difficult to track; states are penalized a 40% reduction of substance abuse prevention funds for violating Synar regulations, but a provision allows the full award if state's assist with Synar regulations in their state using their own funds

Tobacco Control Appropriations/Grants

- **Federal appropriations (1991-2011)**
  - The American Stop Smoking Intervention Study (ASSIST, 1991-1998, the National Cancer Institute and the American Cancer Society)
  - CDC's Initiatives to Mobilize for the Prevention and Control of Tobacco Use (IMPACT, 1994-1998)
  - CDC's National Tobacco Control Program (NTCP, 1997-Present)

Tobacco Control Appropriations/Grants

- **Federal appropriations (1991-2011) cont.**
  - State Supplemental Funding for Healthy Communities (To begin fiscal year 2011), the Prevention and Public Health Fund
  - Food and Drug Administration (2009-Present)
  - Communities Putting Prevention to Work Initiative (CPPW) (began in fiscal year 2010), the Department of Health and Human Services
    - Includes monies allocated at community and/or state level for particular states

Tobacco Control Appropriations/Grants

- **Data Collection Methodology & Data Sources**
  - State Funding:
    - Campaign for Tobacco Free Kids (CTFK) online reports are the primary data source. CTFK personnel are contacted for additional inquiry.
    - As a secondary source, public reports from American Lung Association's State Legislated Actions on Tobacco Issues (SLATI) and State of Tobacco Control are reviewed.
    - If data discrepancies exist between the two sources, state tobacco programs are contacted directly for resolution, usually the director or the key personnel of the state tobacco control program.

Tobacco Control Appropriations/Grants

- **Data Collection Methodology & Data Sources**
  - Federal funding:
    - The National Cancer Institute provided funding data for the American Stop Smoking Intervention Study (ASSIST).
    - The CDC's Office on Smoking Health provided state funding data for the Initiatives to Mobilize for the Prevention and Control of Tobacco Use (IMPACT) and the National Tobacco Control Program (NTCP).
    - CDC provided data on State Supplemental Funding for Healthy Communities which is funded from the Prevention and Public Health Fund.
    - The FDA's compliance-check data were obtained from the USAspending.gov website and verified with data provided by the FDA's Center for Tobacco Products
    - CPPW funds were obtained from a HHS website (http://www.hhs.gov/recovery/programs/cppw/factsheet.html)

Tobacco Control Appropriations/Grants

- **Data Collection Methodology & Data Sources**
  - American Legacy Foundation
    - The American Legacy Foundation tobacco control funding data were obtained from Legacy's internal financial and grant reports. Grants for national level advocacy and research grants were excluded.
  - Robert Wood Johnson Foundation
    - Data were obtained directly from the Robert Wood Johnson Foundation (RWJF) by examining RWJF grants awarded to states. Grants for national level advocacy and research grants were excluded.

Tobacco Control Expenditures

- **Definition**
  - Amounts spent by state tobacco control programs on tobacco prevention and control
  - Includes community-level spending, where community-level funds were granted from federal, state, Legacy, and RWJF funding sources
  - Expenditure data are available by CDC Best Practices (BP) Program Components for years 2008 & 2009

Tobacco Control Expenditures

- **Data Collection Methodology and Primary Sources**
  - Contacted key public health personnel within each state, the first point of contact was usually the director or head of the tobacco control division within a state's public health department
  - Performed online searches of state audit and budget reports
  - Reviewed documents within a state's health department or other agencies' websites pertaining to the administration, management, and utilization of state tobacco control funds
  - Open records requests

Tobacco Control Expenditures

- **Data Collection Methodology and Primary Sources**
  - When multiple agencies were involved with tobacco control initiatives, each agency, including education departments and Master Settlement Agreement funded foundations , was contacted
  - If a response was not received, a formal Open Records Request was filed with the associated office of administrative counsel within the agency or body overseeing that state's tobacco control program

Tobacco Control Expenditures

- **Data Collection Methodology and Primary Sources**
  - For most states, data were provided by the five program components of CDC's Best Practices. Otherwise, assistance from state contacts was requested to categorize the expenditures data.

Tobacco Control Expenditures

- **Expenditures by CDC Best Practices Program Components**
  - Spending on State and Community Interventions
  - Spending on Health Communication Interventions
  - Spending on Cessation Interventions
  - Spending on Surveillance and Evaluation
  - Spending on Administration and Management

Tobacco Control Expenditures

- **Expenditures by CDC Best Practices Program Components**
  - Spending on State and Community Interventions -

  includes all expenditures and related consultant fees for initiatives to change local and statewide smoke free air policies; reduce exposure to second-hand smoke; eliminate tobacco-related disparities; and implement community and/or school programs aimed at influencing youth

Tobacco Control Expenditures

- **Expenditures by CDC Best Practices Program Components**
  - Spending on Health Communication Interventions -

  includes all expenditures on anti-tobacco media campaigns, including state and local paid television, radio, billboard, print, and web-based advertising. It includes spending for all advertisements including cessation, prevention, policy or youth oriented advertisements. Also included are the costs of producing, carrying, and broadcasting those ads and related consultant fees

Tobacco Control Expenditures

- **Expenditures by CDC Best Practices Program Components**
  - Spending on Cessation Interventions -

  includes all expenditures on state Quitline and cessation services

Tobacco Control Expenditures

- **Expenditures by CDC Best Practices Program Components**
  - Spending on Surveillance and Evaluation -

  includes all expenses on surveys and/or research to monitor tobacco-related attitudes, behaviors, and health outcomes, and to evaluate the effectiveness of tobacco control and prevention interventions

Tobacco Control Expenditures

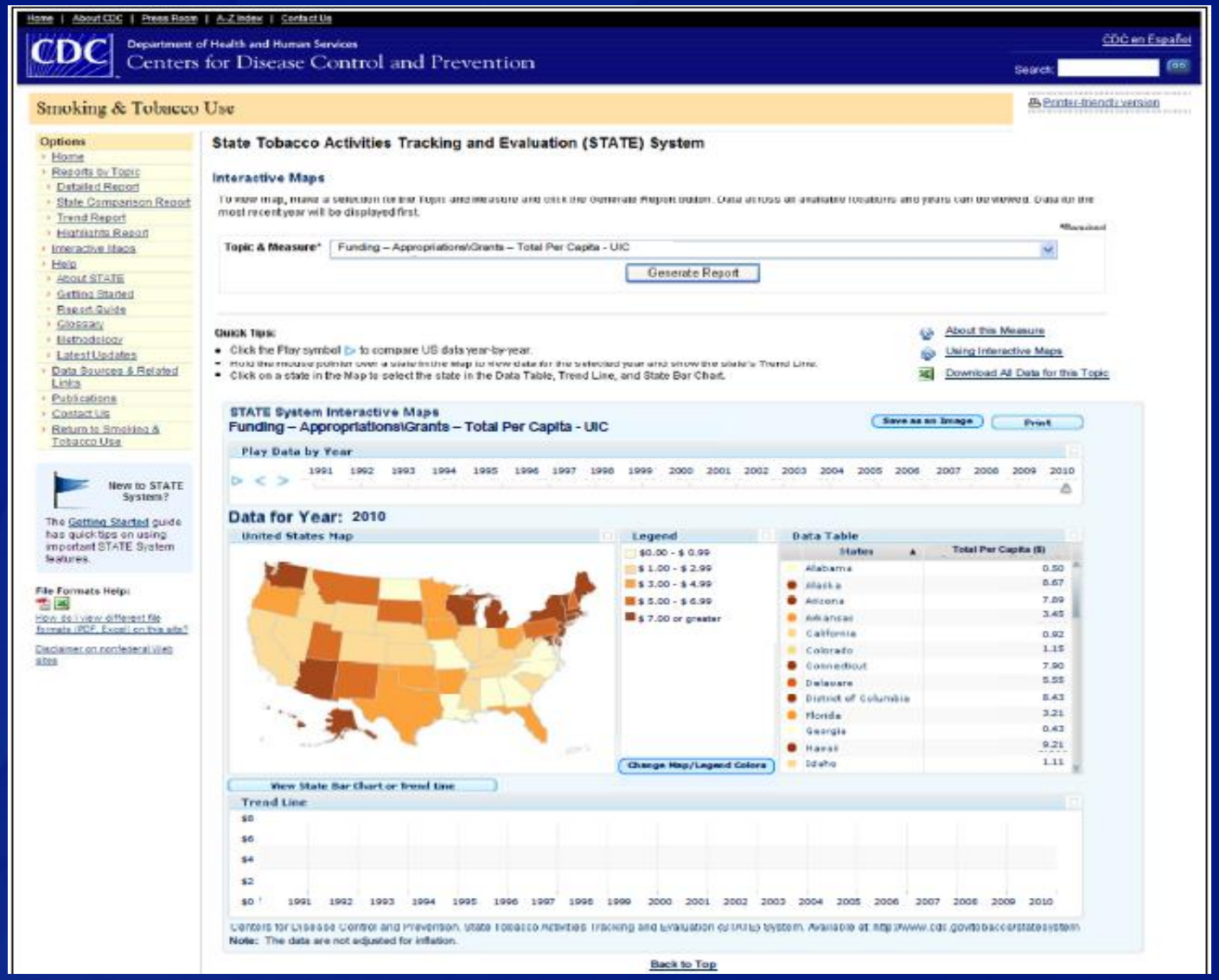
- **Expenditures by CDC Best Practices Program Components**
  - Spending on Administration and Management -

  includes salary and fringe benefits for the personnel who manage and operate state tobacco control programs

Kimp Walton

STATE SYSTEM FUNDING REPORTS

STATE System Funding Reports



Tobacco Control Appropriations/Grants

- **Reporting Measures within STATE System**
  - Total Amount
  - Total Amount Per Capita
  - Appropriation Amounts by Funding Source
  - Funding Source Amounts as a Percentage of Total Appropriations
  - Funding Cycle

Tobacco Control Expenditures

- **Reporting Measures within STATE System**
  - Total Amount
  - Total Per Capita
  - Expenditures by Best Practices Program Components
  - All BP Interventions Subtotal
    - Sum of State & Community, Health Communication, & Cessation Interventions
  - BP Expenditures as a Percentage of Total Expenditures
  - 2007 CDC Best Practices Recommended Annual Investment
  - Total Amount as a Percentage of 2007 CDC BP Recommendations

Tobacco Control Appropriations/Grants

- **Reporting Measures within STATE System**
  - Funding Cycle
    - State Appropriation - the state's fiscal year for data from 2000 - 2011. However, for years prior to 2000, funding cycle set at July 1- June 30 for all 50 states and DC.
    - Legacy Appropriation – Legacy set their funding cycle to July 1- June 30

Tobacco Control Appropriations/Grants

- **Reporting Measures within STATE System**
  - Funding Cycle
    - RWJF Appropriation - RWJF funding cycle was set to July 1 - June 30 by UIC to be consistent with Legacy's funding cycle
    - Federal Appropriation - As for federal appropriations, because it includes several federal funding sources and grants (CPPW, NTCP, FDA), the funding cycle for the OSH NTCP grant was selected to represent the federal funding cycle. All federal appropriation data are adjusted to the funding cycle of OSH's NTCP grant.

Frank Chaloupka

USING APPROPRIATION AND EXPENDITURE DATA

Why Are Tobacco Control Appropriations/Grants and Expenditure Data Important?

1. Better understand the resources states devoted to tobacco control programs and the investment states make in reducing tobacco use.
2. Help inform state policy-makers of the importance of adequately funding tobacco control programs.
3. Evaluate the separate impact of major program components and the synergistic effects of a comprehensive tobacco control program on tobacco use

Why Are Tobacco Control Appropriations/Grants and Expenditure Data Important?

4. Produce evidence to support continued funding for state comprehensive tobacco control programs when many states have been and are now looking to cut tobacco control funding in face of state budget crises.
5. Help identify and preserve critical tobacco control program elements.

Use of Tobacco Control Appropriations/Grants and Expenditure Data

Produce Empirical Evidence

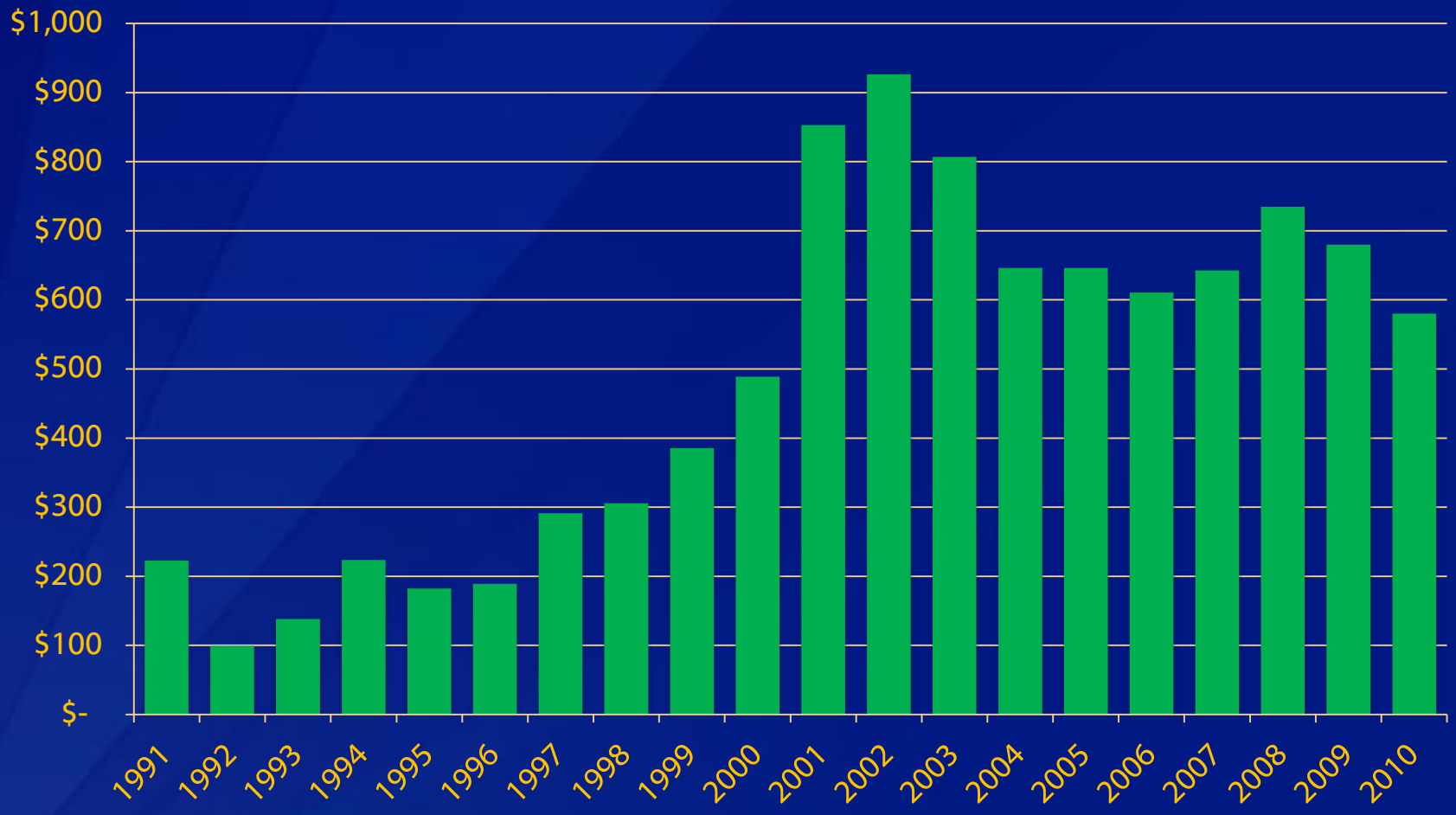
Some Examples:

1. **Understand the current status of tobacco control investment in the U.S.**
2. **Examine the impact of state tobacco control expenditures on tobacco-related beliefs, attitudes, and intentions to use among American youth.**
3. **Investigate the effect of tobacco control expenditure on youth tobacco use behaviors.**
4. **Examine the impact of tobacco control expenditures on adult smoking behaviors.**

Use of Tobacco Control Appropriations/Grants and Expenditure Data

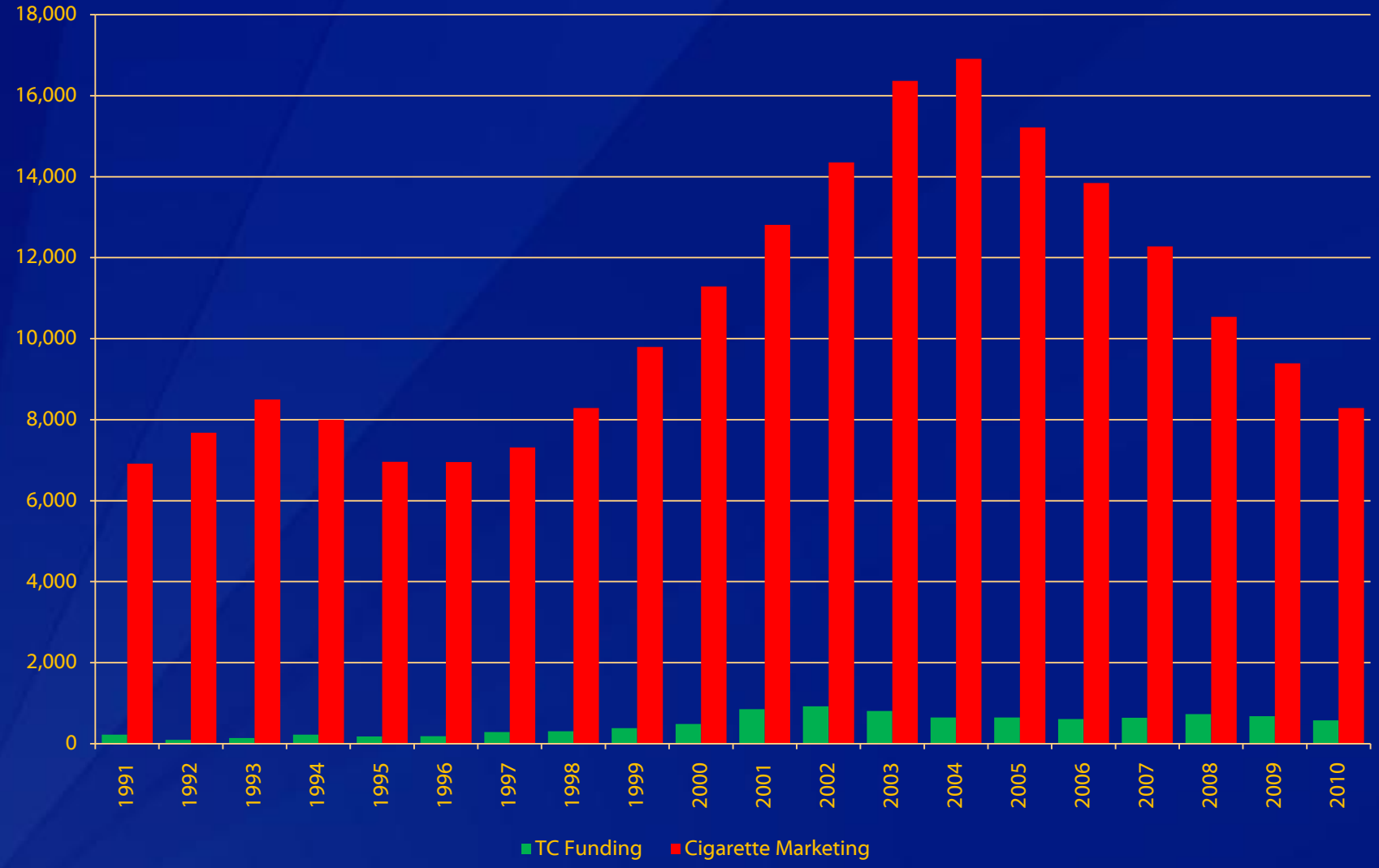
1. Understand the current status of tobacco control investment in the U.S.

Real State Tobacco Control Funding from 1991 – 2010 in millions (2010 base CPI)



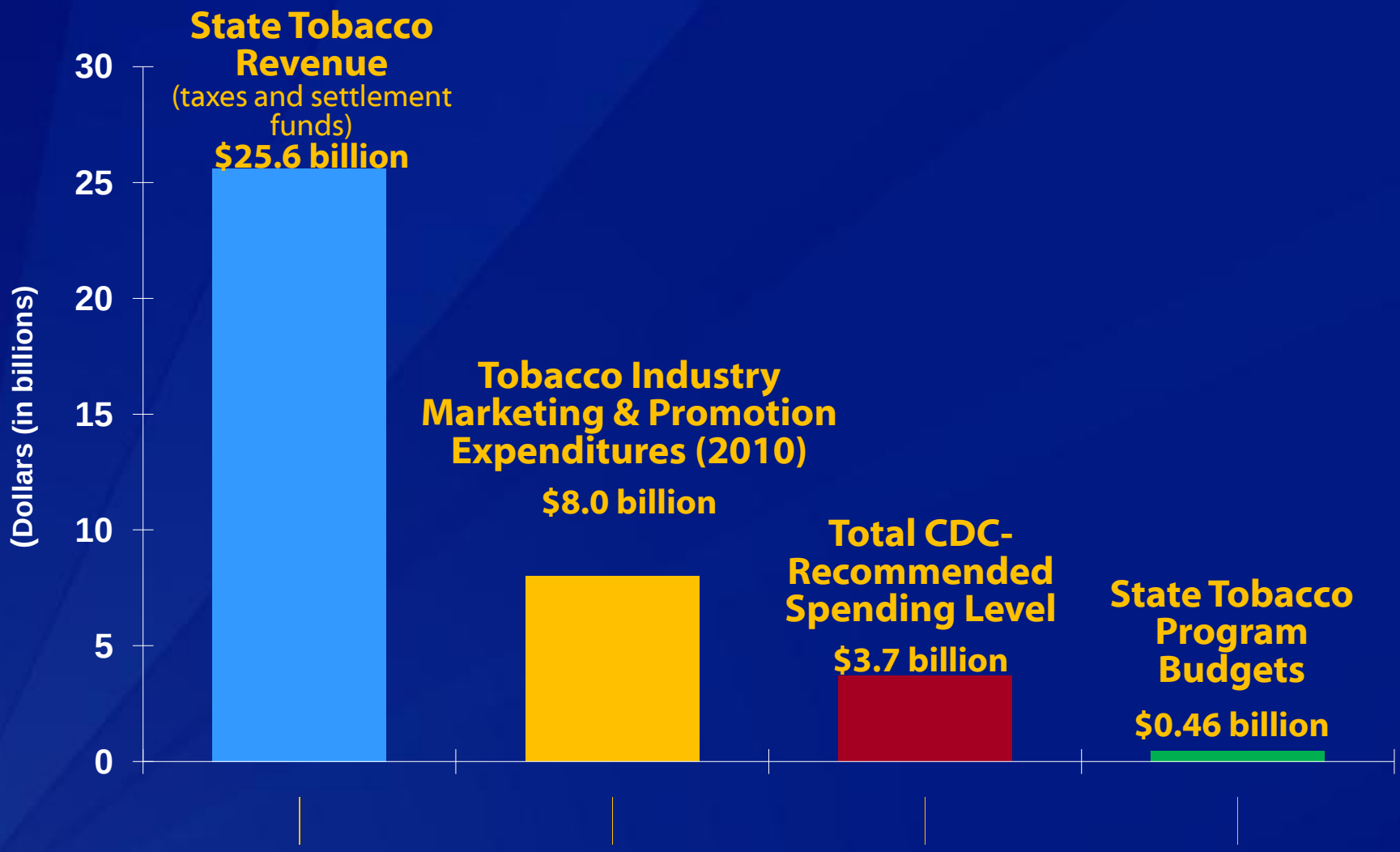
Bridging the Gap project, University of Illinois at Chicago

Real State Tobacco Control Funding and Cigarette Company Marketing Expenditures, 1991-2010 (2010$)



Bridging the Gap project, University of Illinois at Chicago

Tobacco Industry is Outspending Prevention Efforts 17:1 —FY2012



Campaign for Tobacco Free Kids, Federal Trade Commission, American Heart Association, American Cancer Society, American Lung Association, SmokeLess States National Tobacco Policy Initiative

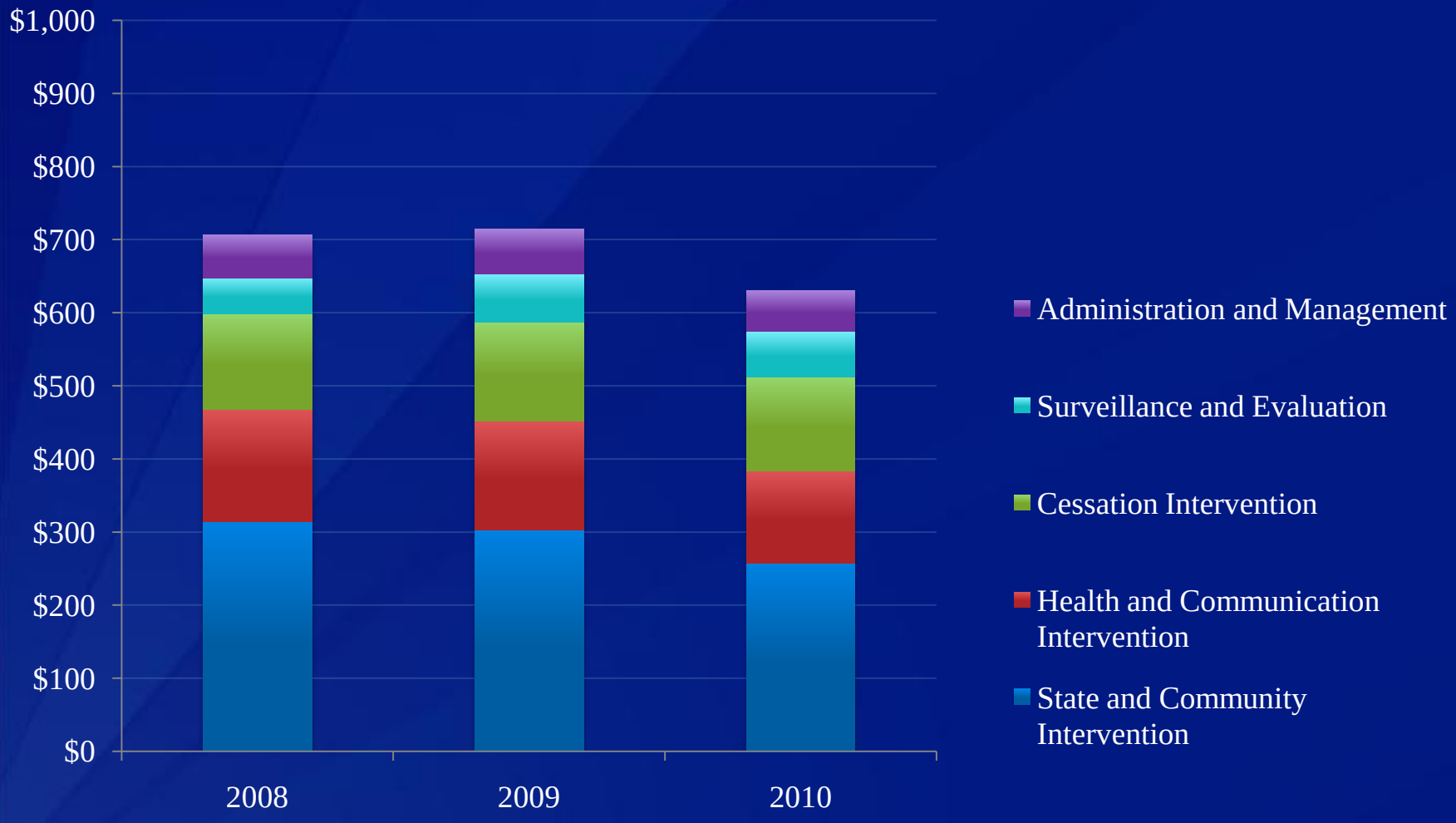
Price-Related Cigarette Marketing and Tobacco Control

- Greater price-related marketing since the Master Settlement Agreement and related price increases (Ruel, et al., 2004; Loomis et al., 2006; FTC, 2007)

- More price-related marketing in states with greater spending on comprehensive tobacco control programs (Loomis, et al., 2006; Slater et al., 2001)

- Growing use of point-of-sale ads to highlight sales promotions (e.g. special price, special offer, cents off, reduced price, multi-pack special) (Feighery et al., 2008)

National Total Tobacco Control Expenditure by CDC Category in Millions



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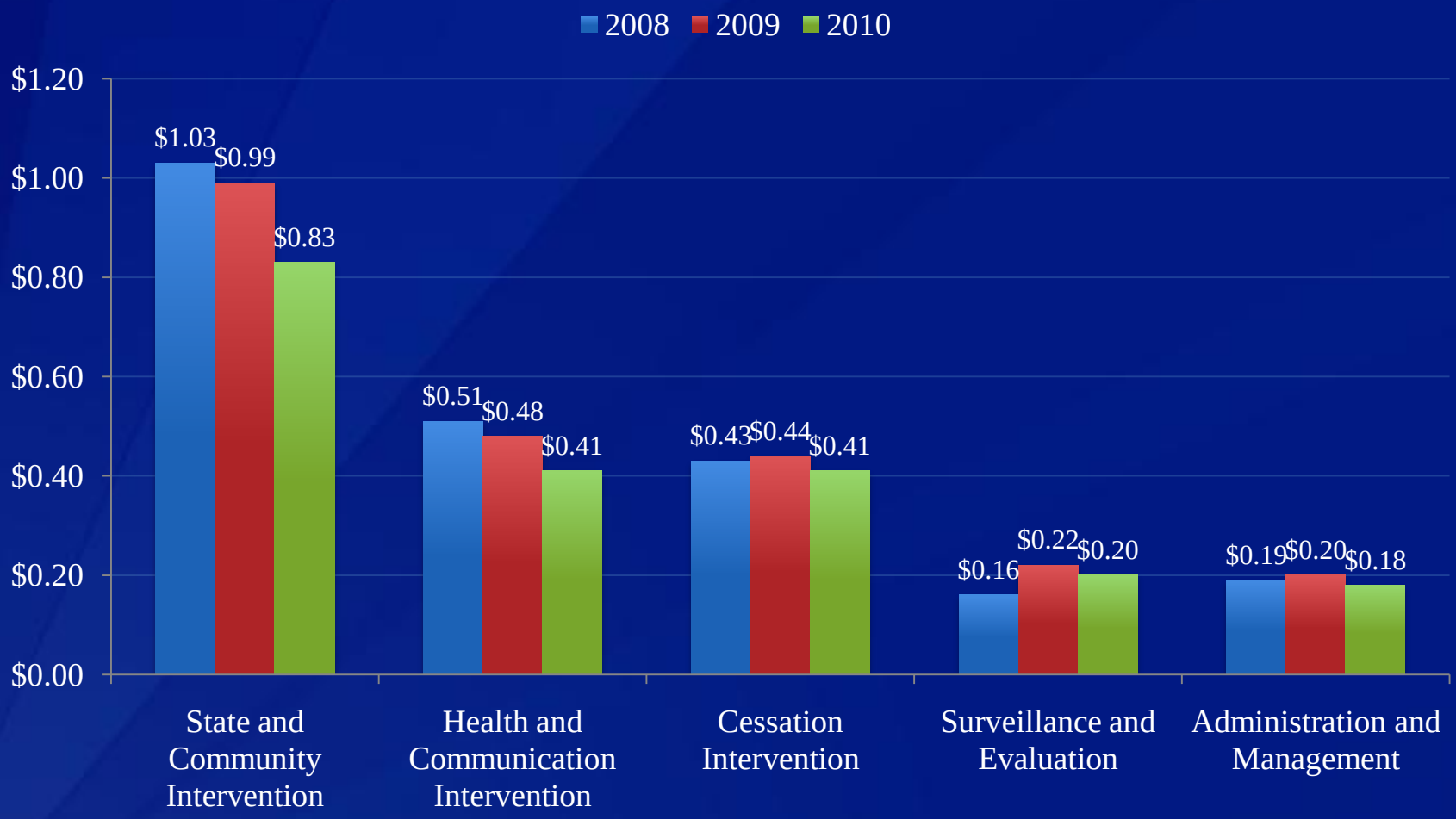
National Per Capita Tobacco Control Expenditures by CDC Category



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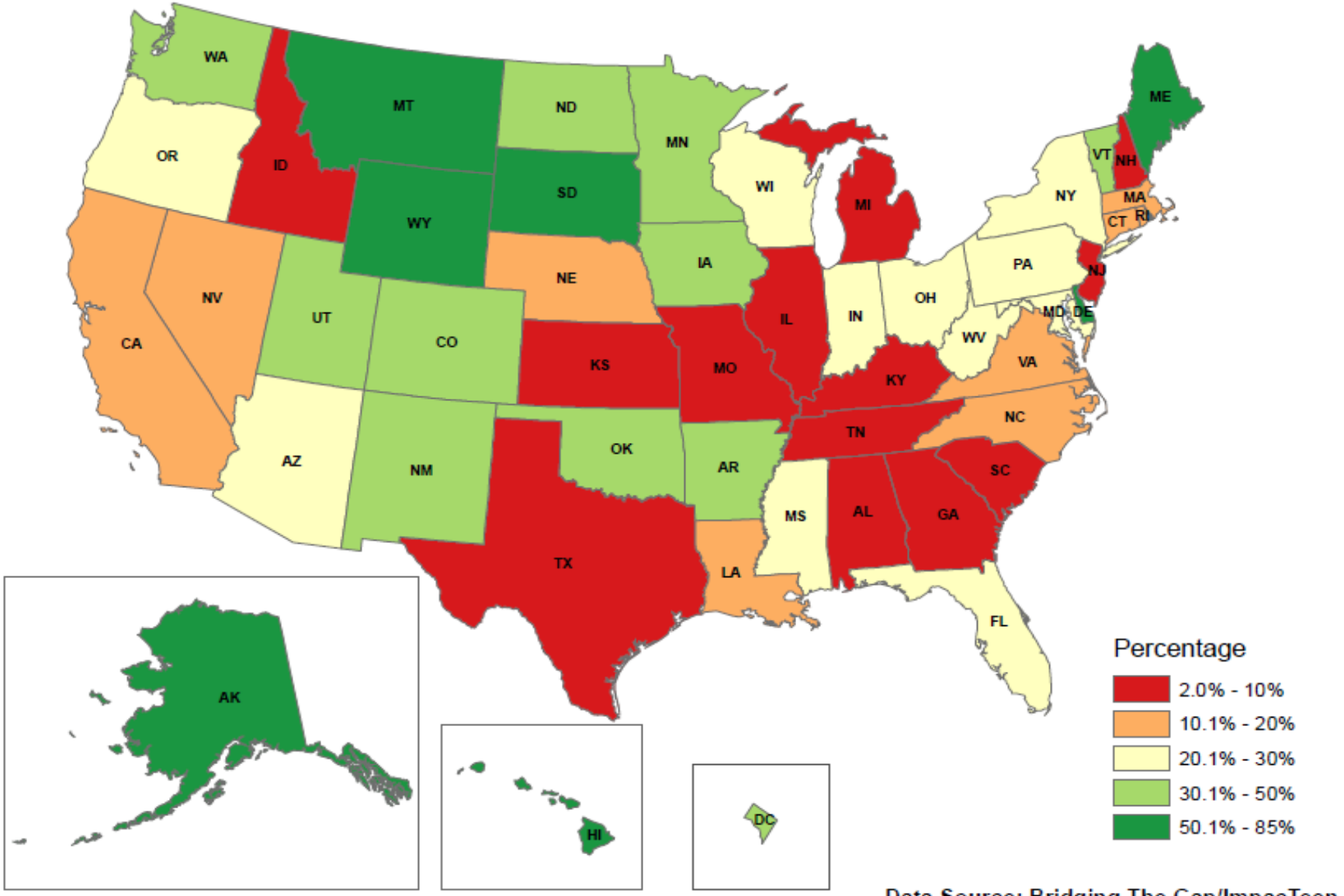
FY 2009 State Total Tobacco Control Spending As A Percentage of CDC Recommended Spending Levels



Data Source: Bridging The Gap/ImpacTeen

Provide Research Evidence: Examples

2. Examine the impact of state tobacco control expenditure on youth tobacco-related beliefs, attitudes, and intentions.

Methodology

- Examine tobacco-related beliefs, attitudes, and intentions among a nationally representative cross-sectional sample of 8th, 10th, and 12th graders in the U.S. from the Monitoring the Future Surveys, 2008-2010.
- State total tobacco control expenditure measured as the % of CDC recommended level of investment.
- Controlled for other state level tobacco control policies, such as cigarette price, and smoke free air laws, as well as individual- or family-level demographic and socio-economic characteristics and school characteristics.

Preliminary Results

Youth Tobacco-related Attitudes, Beliefs, and Intentions	Coefficient	Standard Error
Approve of others/adults smoking >= 1 pack/day	-0.000204***	(0.000130)
Do not prefer to date nonsmokers	-1.81e-05	(0.000142)
Feel that smokers know how to enjoy life more than nonsmokers	-5.76e-05*	(8.17e-05)
Feel that the harmful effects of cigarettes have been exaggerated	-0.000101	(0.000149)
Do not feel that smoking reflects poor judgment	-9.73e-05	(0.000166)
Do not mind being around people who are smoking	-0.000422***	(0.000215)
Do not feel that smoking is a dirty habit	-8.95e-05	(0.000156)
Do not strongly dislike being around people smoking	-0.000305***	(0.000210)
Perceive great harm in smoking	0.000372***	(0.000161)
Perceive great harm in using smokeless tobacco	0.000482***	(0.000229)
Intend to smoke in 1 year	-0.000133**	(0.000126)
Intend to smoke in 5 year	-0.000200***	(0.000147)

Standard errors in parentheses, controlled for SFA, price, smoking sentiment, and individual socio-economic and demographic variables with state and year fixed effects *** p<0.01, ** p<0.05, * p<0.1

Preliminary Results - Summary

- For American Middle School and High School Students, Higher Tobacco Control Expenditure Were Found to Be Associated with:
  - More disapproval of others smoking at least a pack a day
  - More mindful and dislike of being around people who smoke
  - Greater perceived harm in smoking or use of smokeless tobacco
  - Stronger intentions not to smoke in the future
- Limitations: short time period, more years of data are needed.

Provide Research Evidence: Examples

2. Examine the effect of state tobacco control expenditure on tobacco use among middle school and high school students in the U.S.

Methodology

- Examine tobacco use among a nationally representative cross-sectional sample of 8th, 10th, and 12th graders in the U.S. from the Monitoring the Future Surveys, 2008-2010.
- State total tobacco control expenditure measured as the % of CDC recommended level of investment.
- Controlled for other state level tobacco control policies, such as cigarette price, and smoke free air laws, as well as individual- or family-level demographic and socio-economic characteristics and school characteristics.

Preliminary Results

Youth Tobacco Use Outcomes

Smoked in the past 30 days	-0.000149**	(0.000147)
Average number of cigarettes smoked in past 30 days, in log	-0.000239	(0.000928)
Used smokeless tobacco in the past 30 days	-6.24e-05	(0.000114)
Ever smoked but not currently smoking (those who quit)	2.86e-05	(0.000116)

Standard errors in parentheses, controlled for SFA, price, smoking sentiment, and individual socio-economic and demographic variables with state and year fixed effects *** p<0.01, ** p<0.05, * p<0.1

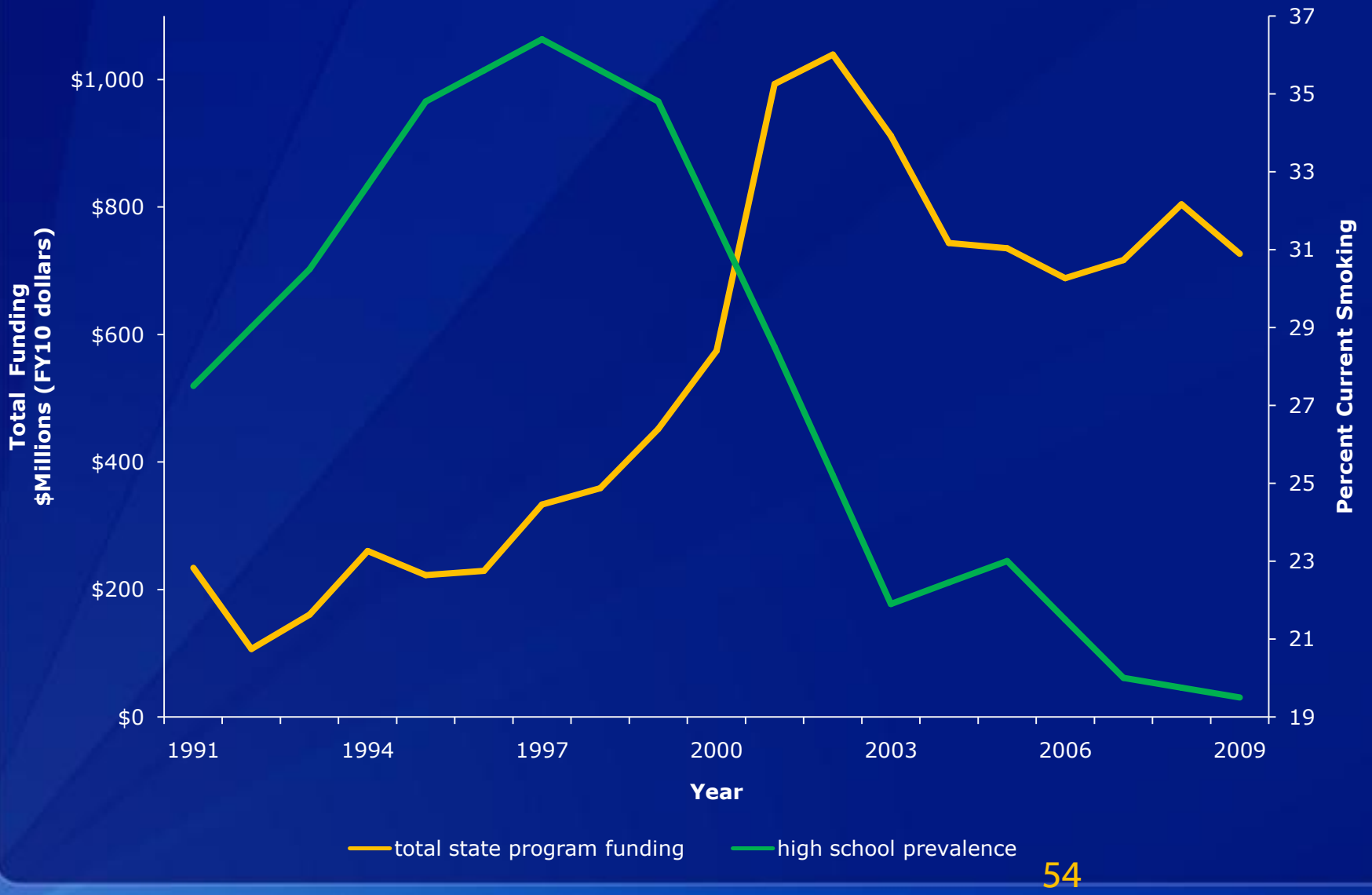
Preliminary Results - Summary

- For American Middle School and High School Students, Higher Tobacco Control Expenditure Were Found to Be Associated with:
  - Significantly lower cigarette smoking prevalence
  - Reduced cigarette consumption
  - Reduced prevalence of smokeless tobacco use
  - Increased smoking cessation
- Limitations: cross-sectional data, short time period

Methodology

- Examine tobacco use among a nationally representative cross-sectional sample of 8th, 10th, and 12th graders in the U.S. from the Monitoring the Future Surveys, 1991-2010.
  - Update of earlier work focused on 1991-1999
- State total tobacco control funding measured in dollars per capita and as the % of CDC recommended level of investment.
- Controlled for other state level tobacco control policies, such as cigarette price, and smoke free air laws, as well as individual- or family-level demographic and socio-economic characteristics and school characteristics.

State Tobacco Control Program Funding and Youth Smoking Prevalence



Source: ImpacTeen Project, UIC; YRBS

Simulations

- **Used preliminary estimates to simulate the impact of different funding scenarios**
  - Funding from 1991-2010 reduced prevalence by 1.05%
  - Had funding been at CDC recommended levels throughout, additional 7.25% reduction in prevalence
  - Had all states funded at the maximum level of any state during the period ($20.5 per capita), additional 10.6% reduction in prevalence

Provide Research Evidence: Examples

4. Examine the impact of spending on specific tobacco control program components on adult smoking behavior, and investigate the synergistic impact of a comprehensive tobacco control program.

Methodology

- Use state level data for years 2008-2010 on tobacco use from Behavioral Risk Factor Surveillance System (BRFSS)
- Used two measures of expenditures:
  - in per capita terms and as CDC recommended levels of investment
- Controlling for
  - Cigarette price:
  - Smoke Free Air Laws
  - State Unemployment Rate and Personal Capita Income
  - Other socio-economic and demographic and religious characteristics of a state

Preliminary Results:

Table 1: Impact of expenditures measured as a portion of CDC recommended level on current smoking prevalence

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
state and community	-0.00390						-0.00223
	(0.00870)						(0.0108)
health communication		0.000643					0.00434
		(0.00680)					(0.0100)
cessation			-0.000350				-0.000417
			(0.00775)				(0.0113)
surveillance and evaluation				-0.00294			-0.000485
				(0.00504)			(0.00987)
administration and management					-0.00259		-0.00293
					(0.00254)		(0.00556)
total expenditure						-0.00453	
						(0.00963)	
Observations	153	153	153	153	153	153	153
R-squared	0.767	0.767	0.767	0.767	0.768	0.767	0.768

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Preliminary Results:

Table 2: Impact of expenditures measured as a portion of CDC recommended level on current smoking intensity

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
state and community	-0.0164*						-0.0180
	(0.00969)						(0.0141)
health communication		0.00283					0.0176
		(0.00913)					(0.0125)
cessation			-0.0125				-0.0170
			(0.0138)				(0.0217)
surveillance and evaluation				-0.00706			-0.00367
				(0.00844)			(0.0161)
administration and management					-0.00263		0.000309
					(0.00456)		(0.00824)
total expenditure						-0.0150	
						(0.0121)	
Observations	153	153	153	153	153	153	153
R-squared	0.716	0.712	0.714	0.713	0.712	0.714	0.720

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Preliminary Results:

Table 3: Impact of expenditures measured as a portion of CDC recommended level on successful past quitting

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
state and community	0.0143						-0.00212
	(0.0135)						(0.0154)
health communication		0.0132					-0.00196
		(0.00959)					(0.0125)
cessation			0.0237*				0.00684
			(0.0126)				(0.0168)
surveillance and evaluation				0.0235***			0.0222
				(0.00860)			(0.0168)
administration and management					0.00958**		0.000501
					(0.00416)		(0.00792)
total expenditure						0.0286*	
						(0.0148)	
Observations	153	153	153	153	153	153	153
R-squared	0.775	0.776	0.777	0.784	0.778	0.779	0.784

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Preliminary Results:

Table 4: Impact of expenditures measured as a portion of CDC recommended level on quit attempt s

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
state and community	0.0106						-0.00244
	(0.0113)						(0.0152)
health communication		0.00710					-0.0115
		(0.00831)					(0.0121)
cessation			0.0266*				0.0304
			(0.0142)				(0.0224)
surveillance and evaluation				0.0144*			0.00233
				(0.00829)			(0.0141)
administration and management					0.00744		0.00656
					(0.00549)		(0.00862)
total expenditure						0.0229*	
						(0.0133)	
Observations	153	153	153	153	153	153	153
R-squared	0.388	0.387	0.398	0.395	0.393	0.394	0.405

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Preliminary Results Summary

- **Smoking Prevalence**
  - We find negative but statistically insignificant impact on current smoking Prevalence
    - Problems: lack of variation in smoking prevalence during the study period and short time period, only 3 years of data
- **Smoking Intensity**
  - State and community intervention expenditures decrease the intensity of smoking among current smokers
  - If spending on state and community intervention were at 100% about 440,000 more everyday smokers would switch to someday smoking

Preliminary Results Summary

- **Cessation and quit attempts**
  - Higher spending in every CDC Best Practice category is associated with more successful quit and more quit attempts. The correlations were statistically significant for cessation intervention expenditures and surveillance and evaluation expenditures, and program management and administration spending.
  - If cessation spending were at 100% of CDC recommended level, approximately 1 million smokers would have successfully quit, and about 2 million additional current smokers would have attempted to quit.

Plans

- Continued collection of tobacco control program funding and expenditures data, including spending by CDC Best Practices categories
- Ongoing, extended analyses assessing impact of tobacco control program funding/spending on tobacco use among youth and adults
- Assessment of alternative spending patterns on tobacco use among youth and adults

Questions

- **Contact**

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Dr. Jidong Huang at jhuang12@uic.edu

- **For more information:**
  - www.bridgingthegapresearch.org

Thank You!